Rhode Island Commission on Women

Position Paper on Osteoporosis

The RI Commission on Women encourages improved access for women to routine screening and treatment for osteoporosis. We endorse efforts to provide outreach education and to research the causes and prevention of osteoporosis. We urge women to educate themselves to make informed decisions about osteoporosis, their diet and lifestyle, and their health. This problem calls for a thoughtful, comprehensive response.

The World Health Organization has declared **osteoporosis** to be the second largest public health problem for women. Osteoporosis mean "*porous bone.*" It is a disease characterized by decreased bone mass and deterioration in the structure of the bone tissue. The National Institutes of Health estimate 44 million Americans suffer from osteoporosis or low bone mass. National survey data indicate about 50% of Rhode Island women aged 50 and older have low bone mass or osteoporosis, increasing their risk of bone fractures. For Rhode Island's large elderly population, osteoporosis is a significant concern.

Osteoporosis disproportionately affects women. Fully 80% of people with osteoporosis are women.

Osteoporosis is costly. In 2001, Americans spent $17 billion a year *($47 million a day)* on osteoporosis-related health care costs. Costs are estimated to rise to $60 billion a year by 2020 if measures are not taken to address this burgeoning health problem. The greatest human and financial costs are related to the more than 300,000 hip fractures each year. Six months after their hip fracture, most patients (85%) cannot walk across a room without assistance. Twenty-four percent of hip fracture patients aged 50 and over die within one year following their fracture.

It is difficult to obtain specific information on the cost of osteoporosis, because it is a chronic disease and therefore often not a primary diagnosis. Hospital discharge and cost data show that 39,372 women aged 50 and over were discharged from Rhode Island hospitals in 2001 with osteoporosis as part of their diagnosis. There were 1,153 hip fractures among women aged 50 or older in 2001. The total charge for these Rhode Island hospitalizations was $45.7 million.

Osteoporosis can be prevented and treated. It should not be viewed as a disease that begins with a fracture. Osteoporosis prevention strategies should be used throughout life. The Rhode Island Osteoporosis Group (RIOG) of the RI Department of Health is working to educate the public and health providers on this issue. Public information campaigns are needed that stress the following:

- Culturally sensitive messages promoting a balanced diet with sufficient calcium and vitamin D. *National surveys show that women and girls consume less than half the recommended daily intakes of calcium.* Calcium and Vitamin D are necessary to form and maintain bone. Since bone mass developed during childhood, adolescence and young adulthood is critical in preventing this disease later in life, proper diet during these years helps to reduce risks. Milk is often recommended as a concentrated source of calcium that also contains vitamin D. However, many Asian American, Native American, African American and Hispanic American women are lactose intolerant and can consume only limited or no dairy products such as milk or cheese. It is important that health care providers and public health campaigns provide culturally sensitive messages, in multiple languages about diet and alternate calcium sources. Overcoming cultural and language barriers can help all women understand osteoporosis.
- Weight-bearing and strength-training exercise. Studies suggest that exercise such as walking, dancing, jogging, stair climbing, racquet sports and hiking can help build bone mass early in life and help maintain it later in life. Physical activity may also improve strength and balance, decreasing the risks of falls and injuries. Once a woman is diagnosed with osteoporosis, a provider or physical therapist can recommend modified exercises to maintain bone density and prevent injury.
- A lifestyle free of smoking and excessive alcohol consumption. Women who smoke have lower estrogen levels, enter menopause earlier, and may have lower calcium absorption levels. Women who drink alcohol excessively tend to have poor nutrition and may be more likely to fall.
- Bone mineral density tests. For patients with certain risk factors, these tests can determine the density or strength of bones and assess the risk of fracture. Routine bone density screening for women 65 and older should be provided as recommended by the National Osteoporosis Foundation and the US Prevention Services Task Force.
- Fall prevention strategies. Homes and public areas can be modified to decrease the risk of falls.
- Collaborations with schools can help educate young people about prevention of osteoporosis.

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Emphasis on lowering medical expenses by preventing osteoporosis.
Educating health providers in osteoporosis prevention, diagnosis and treatment, so they can:
Incorporate osteoporosis national guidelines into medical practice, including routine screening.
Discuss osteoporosis with women patients of all ages. A recent Rhode Island survey indicated that physicians did not discuss osteoporosis with 41% of women age 65 and over.

Awareness of risk is important, as osteoporosis can go undetected until a fracture occurs. Risk factors include:
Being female. Women are at a higher risk because they have less bone tissue than men, smaller bones and lose bone more rapidly due to changes involved in menopause.
Size. Women with small, thin bones and low body weight are at a higher risk.
Age. Bone mineral density decreases with time.
A family history of low bone density or osteoporosis is a risk factor.
Certain disease processes predispose women to bone loss. Medications taken for conditions such as rheumatoid arthritis, asthma and thyroid disorders, particularly corticosteroids, may lead to bone loss or the development of osteoporosis.
Smoking and excessive alcohol consumption, as noted above, can lead to poor nutrition, lower calcium absorption, lower levels of estrogen and greater risk of falling.

Asian and Caucasian women are at a higher risk for developing osteoporosis. However, all women from all cultural and ethnic groups are at risk for this disease. African American women are reported to have higher bone densities than white women, but after menopause both show similar patterns of bone loss. African American women are also more likely than white women to die after a hip fracture. Current data are limited for Native American and Mexican American populations, so their level of risk is unknown. *Given the available statistics and the scarcity of osteoporosis-related information on Hispanic and Native American women, more research on ethnic differences related to bone density and treatment is needed.*

The impact of this disease for Rhode Island in terms of both financial and human cost is significant. Twelve states have mandated osteoporosis screening by insurance companies for high-risk individuals such as women over 65 and/or who have other risk factors, but Rhode Island has not. In addition to the physical consequences of osteoporosis, women face consequences such as forced retirement, a loss of independence, permanent disfigurement, social isolation and depression. Taking preventive measures and educating women about this disease would lessen all these burdens.

Approved by the Rhode Island Commission on Women on May 12, 2003.
Approved by the RICW Health Committee on April 21, 2003.

INFORMATIONAL TABLES

TABLE 1 – Optimal Calcium Intake

Infants (birth to 6 months)	400 mg/d
Young children (1 to 5 years)	800 mg/d
Older children (6 to 10 years)	800 to 1200 mg/d
Adolescents and young adults (11 to 24 years)	1200 to 1500 mg/d
Women (25 to 50 years)	1000 mg/d
Women (51 to 64 years)	
Men and women over 65 years	1500 mg/d

Source: U.S. Department of Health and Human Services, "Milk Matters," NIH Publication No. 00-4864.
Sources: American Medical Association (1999) and National Institutes of Health (1994).

TABLE 2 – Selected Alternatives to Dairy Products

Food	Weight in	Serving Size	Mg Calcium Per
COMPARISON: Milk, 1% lowfat	244 g	1 cup	300
COMPARISON: Yogurt, plain. Skim milk	227 g	8 oz.	452
Tofu, raw*	124 g	½ cup	138-860
Sardine, canned in oil with bones	85 g	3 oz.	325
Soybeans, green, cooked	180 g	1 cup	261
Spinach, cooked	180 g	1 cup	245
Collard and turnip greens, fresh, cooked	144-190 g	1 cup	197-226
Blackeye peas, (not canned), cooked	165 g	1 cup	211
Bread, Indian (Navajo), fried	90 g	5" bread	210
Beans, white, mature, canned	262 g	1 cup	191
Bok choy (Chinese cabbage), cooked	170 g	1 cup	158
Figs, dried	95 g	5 figs	138
Rice, white, enriched	185 g	1 cup	111
Papaya, raw	304 g	1 papaya (304 g)	73
Tortilla, corn	26 g	1 tortilla	46

Sources: USDA Food and Nutrition Information Center, Nutrition Database for Standard Reference, Release 15, www.nal.usda.gov/fnic and USDA/ARS Nutrient Data Laboratory, www.nal.usda.gov/fnic/cgi-bin/nut_search.pl
*Note: Tofu, when prepared with calcium sulfate. The amount of calcium increases with firmness of the tofu as water is pressed out in the preparation process. Calcium levels may also vary by manufacturer.

TABLE 3 – Percentage of U.S. Women age 50 or Older with Osteoporosis, low BMD

	Non-Hispanic Cauca-	Native American &	Hispanic	Non-Hispanic
Osteoporosis	20%	16%	10%	5%
Low BMD	52%	36%	49%	35%

Source: National Osteoporosis Foundation, 2002

FOOTNOTES

1-"The Osteoporosis Screening Act of 2001 (HR 1720 and SB 826)." National Osteoporosis Foundation (NOF), Legislative Alert. Jul 2001. http://www.nof.org/advocacy/legalterts/bmmactJul01.htm.

2-"Fast Facts on Osteoporosis" Fact Sheet, National Institutes of Health (NIH), National Resource Center, Osteoporosis and Related Bone Diseases, Nov 2002, http://www.osteo.org/newfile.asp?doc=fast&doctitle=Fast+Facts+on+Osteoporosis&doctype=HTML+Fact+Sheet.

3-"America's Bone Health: The State of Osteoporosis and Low Bone Mass in Our Nation." Advocacy News and Updates, NOF, Washington, DC, Feb 2002, www.nof.org/advocacy/prevalence/index.htm. Percentages were calculated using "Population by Gender in Rhode Island" Table, US Census 2000. http://factfinder.census.gov. Also see "Fast Facts on Osteoporosis" NIH, 2002. Also see, "Disease Statistics." NOF, 2002. http://www.nof.org/osteoporosis/stats.htm.

4-"Population by Gender in Rhode Island." Table, US Census 2000. http://factfinder.census.gov/.

5-Ibid. "Fast Facts on Osteoporosis", NIH, 2002.

6-Ibid. "Fast Facts on Osteoporosis", NIH, 2002. Also see: "You Can Make a Difference, Learn How!" Advocacy News, NOF, www.nof/org/advocacy/index.html. Also see: "American's Bone Health: The State of Osteoporosis and Low Bone Mass in Our Nation.." NOF, Feb 2002.

7-Ibid. "Fast Facts on Osteoporosis", NIH, 2002. Also see: "Facts About The Women's Health Initiative." NIH, Publication No. 99-4074. Sept 1999. http://www.niams.nih.gov/hi/topics/osteoporosis/opbkgr.htm - about.

8-Ibid. "Fast Facts on Osteoporosis", NIH, 2002.

9-Hospital Discharge Data for 2001. Rhode Island Department of Health. Statistics obtained from the Office of Health Statistics, Feb 5, 2002. The total charge for hospitalization includes an estimate adjustment for the overlap between groups. Osteoporosis was almost never given as a primary diagnosis. Most hip fractures did not include a secondary diagnosis of osteoporosis. However, these provide the best estimate of costs.

10-Refer to Department of Health's Osteoporosis Program website at http://www.healthri.org/disease/osteoporosis/home.htm.

11-Ibid. "America's Bone Health: The State of Osteoporosis and Low Bone Mass." NOF, 2002. Also see: Osteoporosis Prevention, Diagnosis and Therapy." NIH Consensus Dev'p. Panel on Osteo. Prevention. JAMA 2001: 285, 785-795.

12-While about 20% of Caucasian Americans are lactose intolerant, about 50% of Hispanic Americans, 75% of African Americans and Native Americans and fully 90% of Asian Americans are lactose intolerant. "Lactose Intolerance." NIH: National Digestive Disorders Information Clearinghouse. NIH Publication No. 02-2751, May 2002. www.niddk.nih.gov/health/digest/pubs/lactose/lactose.htm. Also see "Osteoporosis and You: Module 3: Nutrition", RI Department of Health.

13-See Table 2 for alternatives to dairy products that can be added to source list and made readily available to the public. In collaboration with their providers, women should make informed, realistic evaluations of their diets to determine which foods can best provide supplemental calcium.

14-Ibid. "America's Bone Health: The State of Osteoporosis and Low Bone Mass." NOF, 2002.

15-Ibid. "Osteoporosis Prevention, Diagnosis and Therapy." NIH Consensus Development Panel on Osteoporosis Prevention, 2001. Also see, "Managing Osteoporosis: Part 2: Glucocortocoid-Induced Osteoporosis." American Medical Association. June 1999.

16-"Osteoporosis Overview." NIH, Osteoporosis and Related Bone Diseases, National Resource Center. February 2002. www.osteo.org/newfile.asp?doc=osteo+Overview&doctype=HTML+Fact+sheet.

17-"Physician's Guide to Prevention and Treatment of Osteoporosis." NOF. 1999. Also see: "Screening for Osteoporosis in Postmenopausal Women: Recommendations and Rationale." US Prevention Services Task Force, Annuals of Internal Medicine, 2002: 137: 526-528.

18-"Behavioral Risk Factor Surveillance System." RI Department of Health. BRFSS. 1998-1999.

19-"Managing Osteoporosis: Part 2: Glucocortocoid-Induced Osteoporosis." American Medical Association. June 1999.

20-Ibid. "Osteoporosis Overview." NIH, Osteoporosis and Related Bone Diseases, National Resource Center. February 2002.

21-"2001 Medical Guidelines for Clinical Practice for the Prevention and Management of Postmenopausal Osteoporosis." American Association of Clinical Edocrinologists. Endocrine Practice, 2001: 7: 293-311.

22-Lau, E.M. and C. Cooper. "The Epidemiology of Osteoporosis. The Oriental Perspective in a World Context." Clinical Orthopedics, no. 323 (February 1996): 65-74.

23-Alioa, J.F. et al. "Risk for Osteoporosis in Black Women." Calcif Tissue Int 59, no 6 (December 1996): 415-23.

24-Data from NIH. Cited in "Osteoporosis in Rhode Island." RI Osteoporosis Group. Planning Meeting, 6/13/02.

25- "Osteoporosis Prevention, Diagnosis and Therapy." NIH Consensus Statement 2000 March 27-29; [cited 2002, July, 15]; 17(1): 1-36.

26-"Rhode Island: State Mandated Benefits: Osteoporosis Screening, 2001." Kaiser Family Foundation State Health Facts Online. www.statehealthfacts.kff.org